

Utah Department of Transportation Traffic Management Division

May 2017
Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov



Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

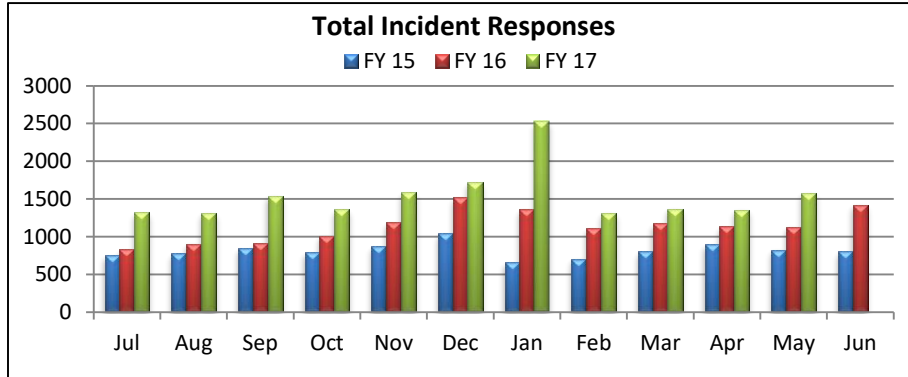
Field Devices Summary

Freeway PTZ Cameras	396	Freeway VMS	100
Arterial PTZ Cameras	509	Surface Street VMS	49
RWIS & Contracted Weather Cameras	223	Portable TOC VMS	7
Viewable Detection Cameras	39	Legacy Trucks Prohibited VMS	21
Total Cameras	1,167	Variable Speed Limit VMS	15
HAR (27 permanent/5 portable)	30	Chain-Up/Avalanche Warning Signs	25
RWIS	101	Total VMS	217
Ramp Meters	70	TMS	584
Express Lane Plazas	73	Traffic Signals	1,788

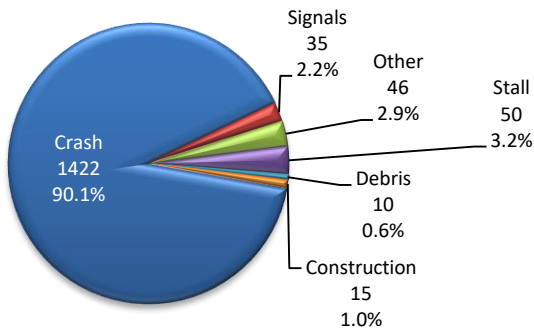
Operations Summary

VMS Messages Displayed	89,983	IMT Assists	2,478
Signal Timing Work Orders	33	Website Visitor Sessions	294,641
Signal Maintenance Work Orders	196	511 Calls	12,306
All New Work Orders	461	Weather Desk Calls	243
Incident Responses by the TOC	1,578	Ask CommuterLink Questions	92
Incident Duration Average Minutes	70	UDOT Traffic Followers and Re-tweets	850,108

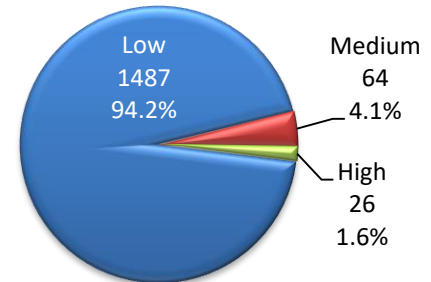
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



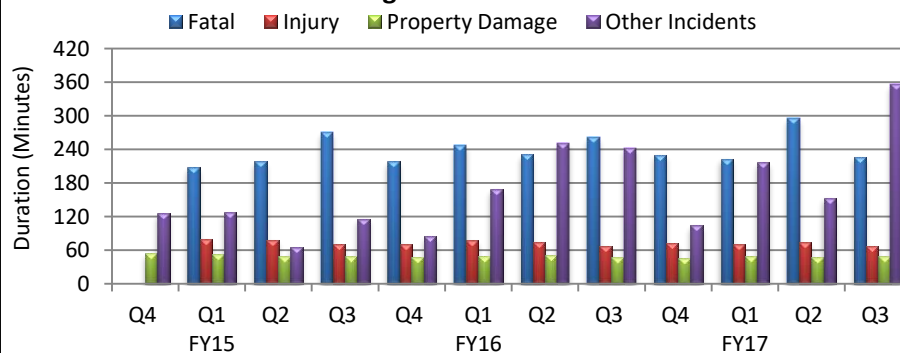
Incidents By Type for May 2017



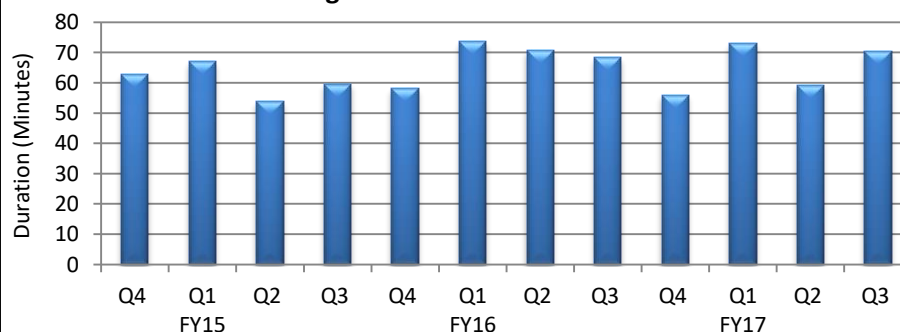
Incidents by Severity for May 2017



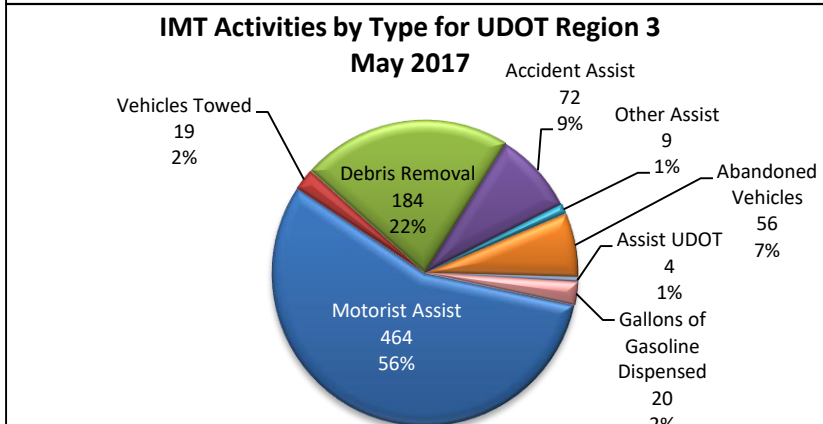
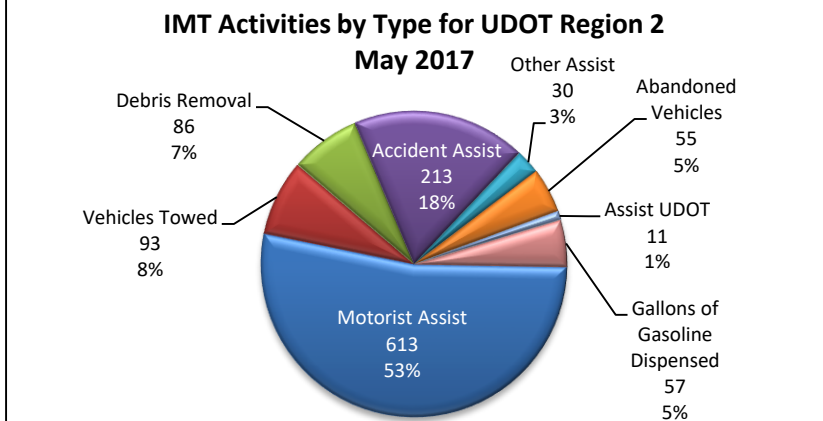
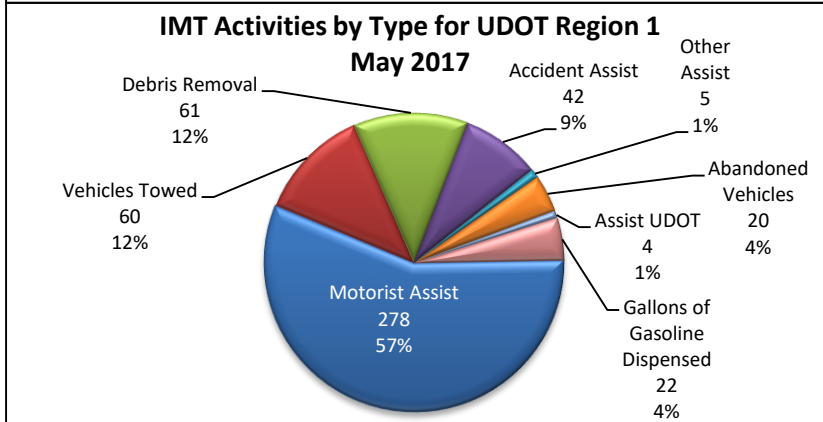
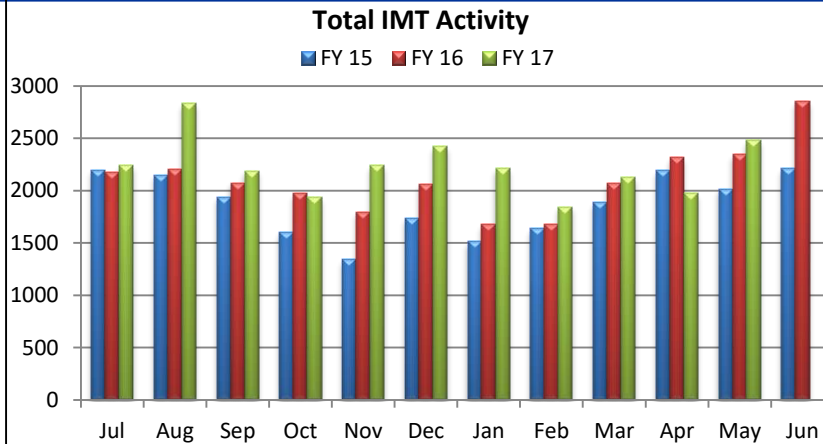
Average Crash Duration



Average Duration of All Incidents



Incident Management Team (IMT) Activities



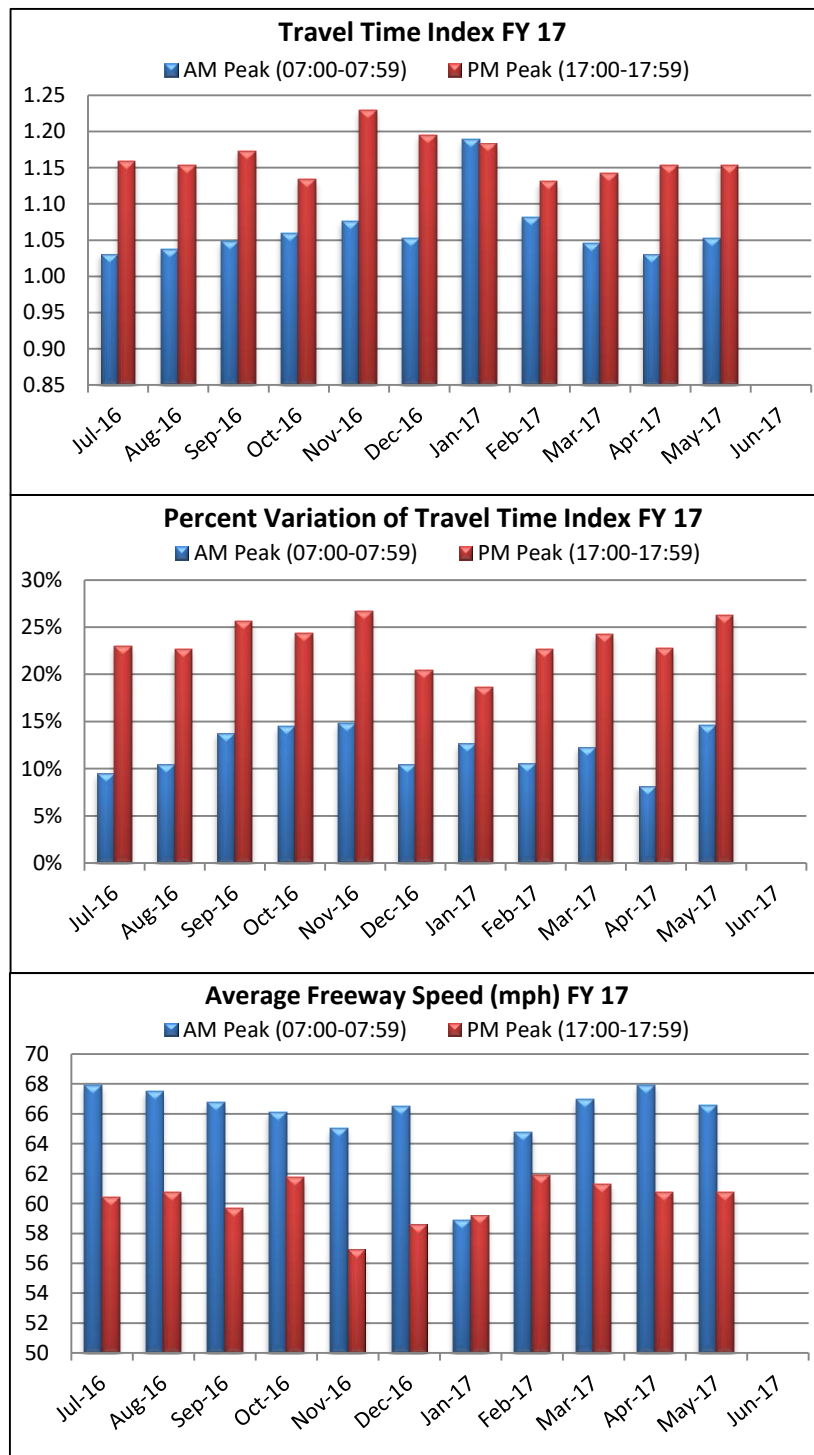
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.



Freeway Traffic Level of Service

Peak Travel Time Index by Segment for May 2017

(+) Direction (NB, EB, Clockwise)

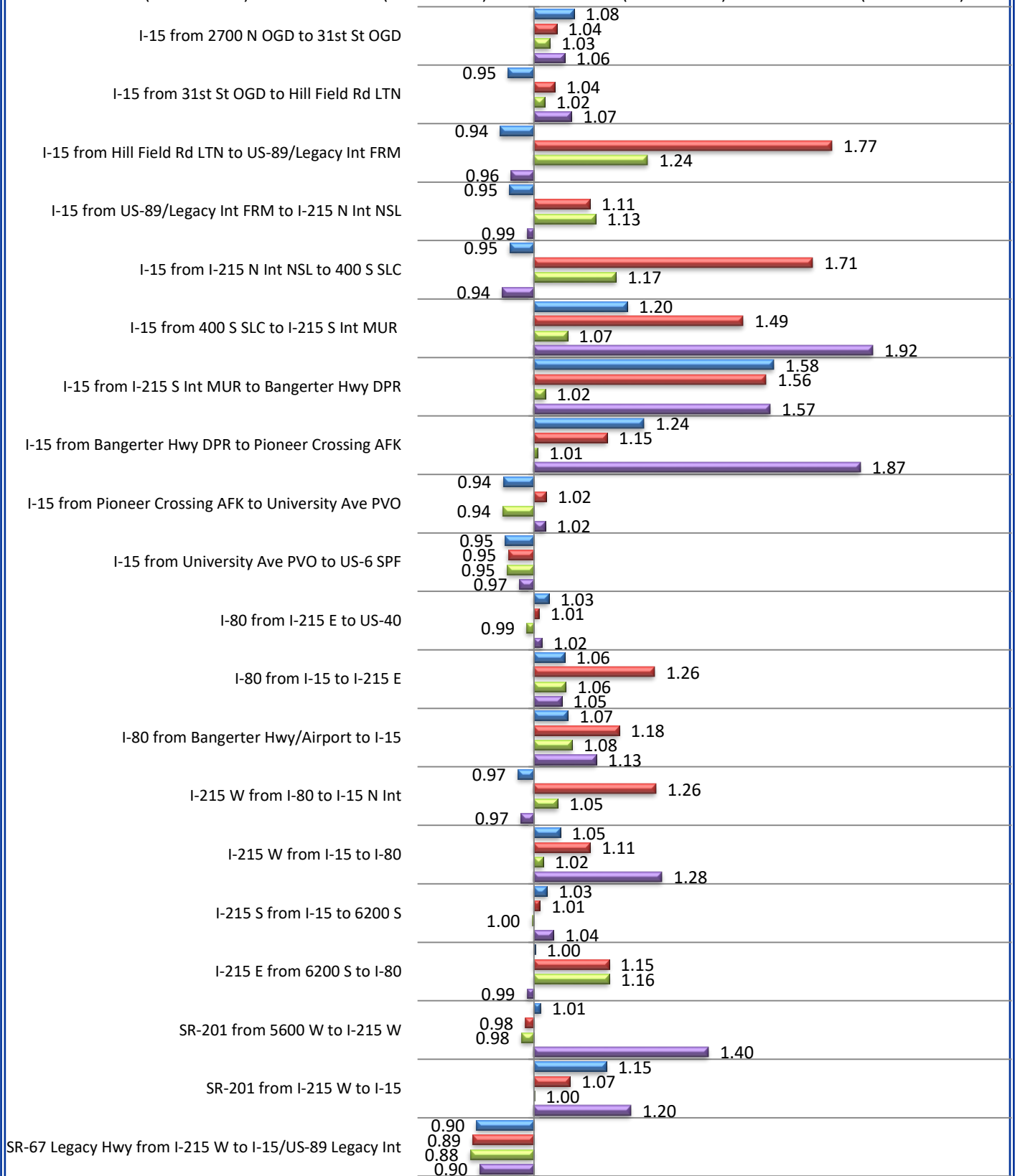
(-) Direction (SB, WB, Counter Clockwise)

■ AM Peak (07:00-07:59)

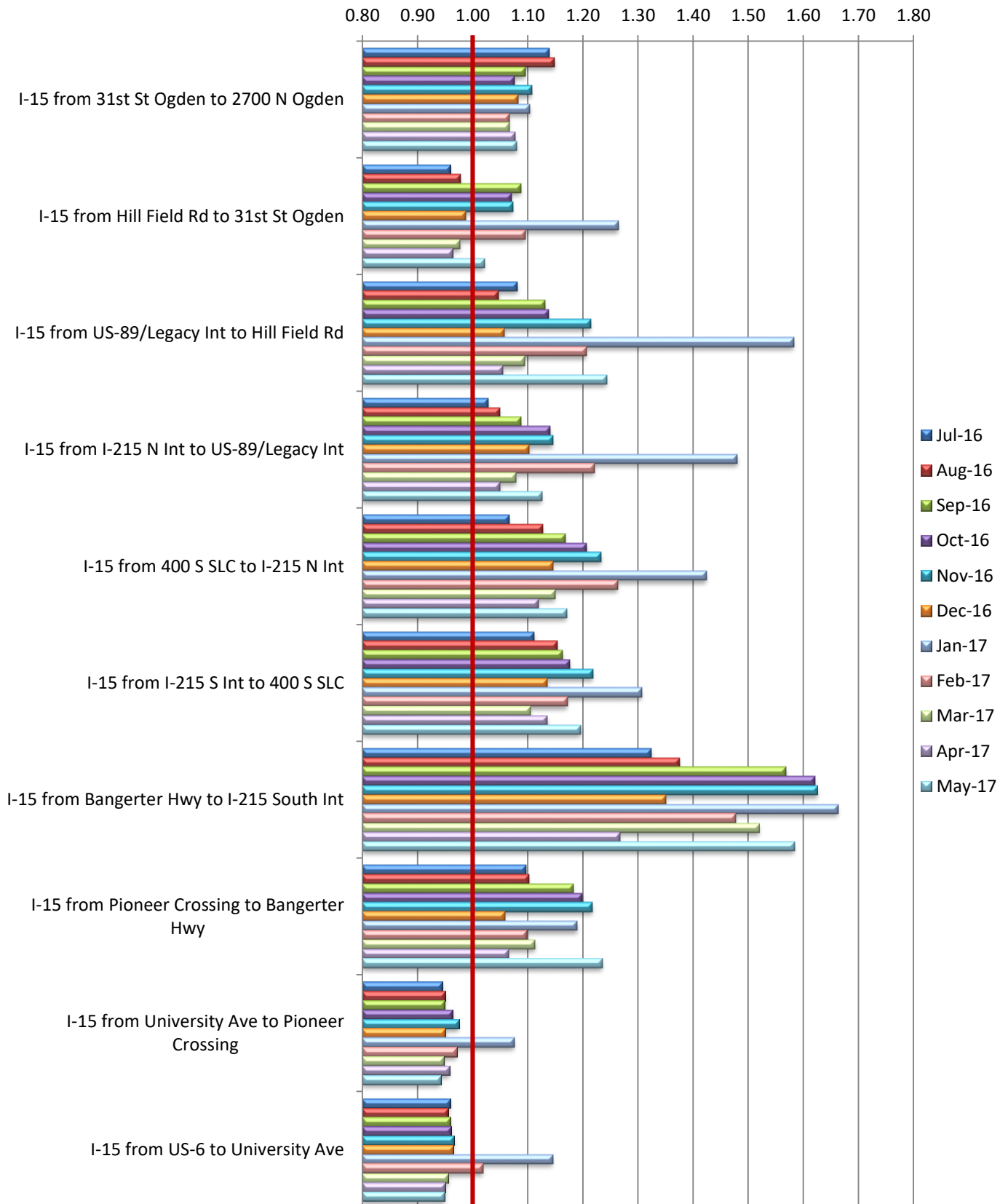
■ PM Peak (17:00-17:59)

■ AM Peak (07:00-07:59)

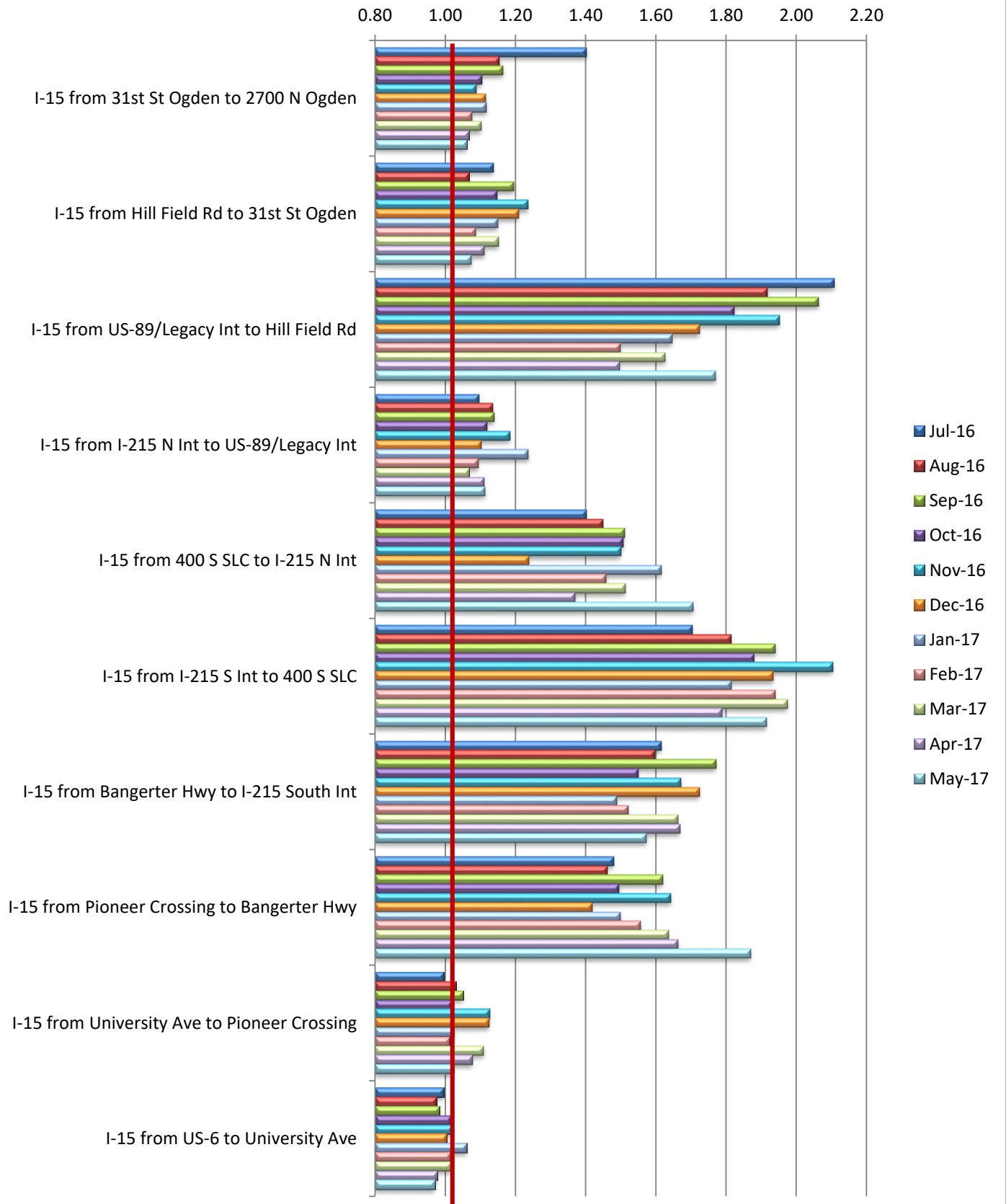
■ PM Peak (17:00-17:59)



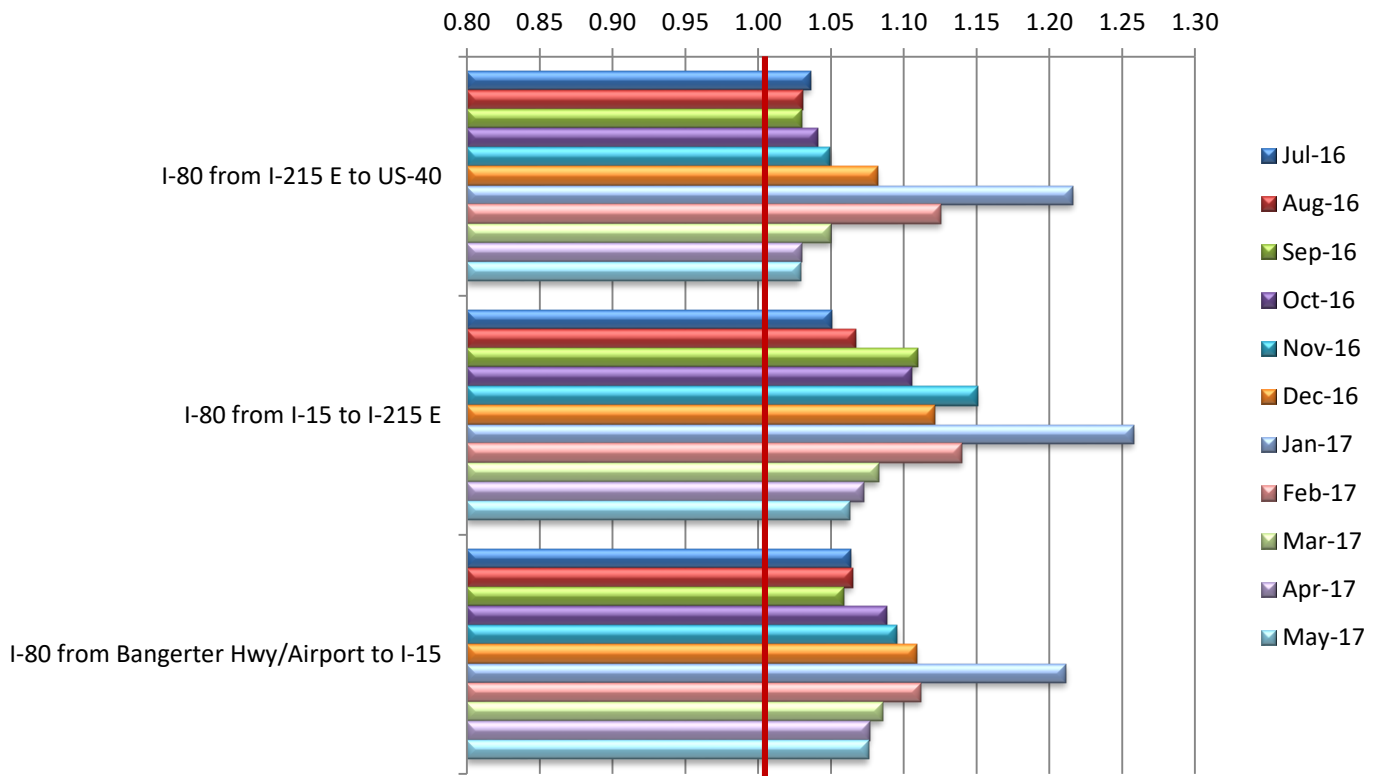
AM Peak Travel Time Index for I-15 FY 17



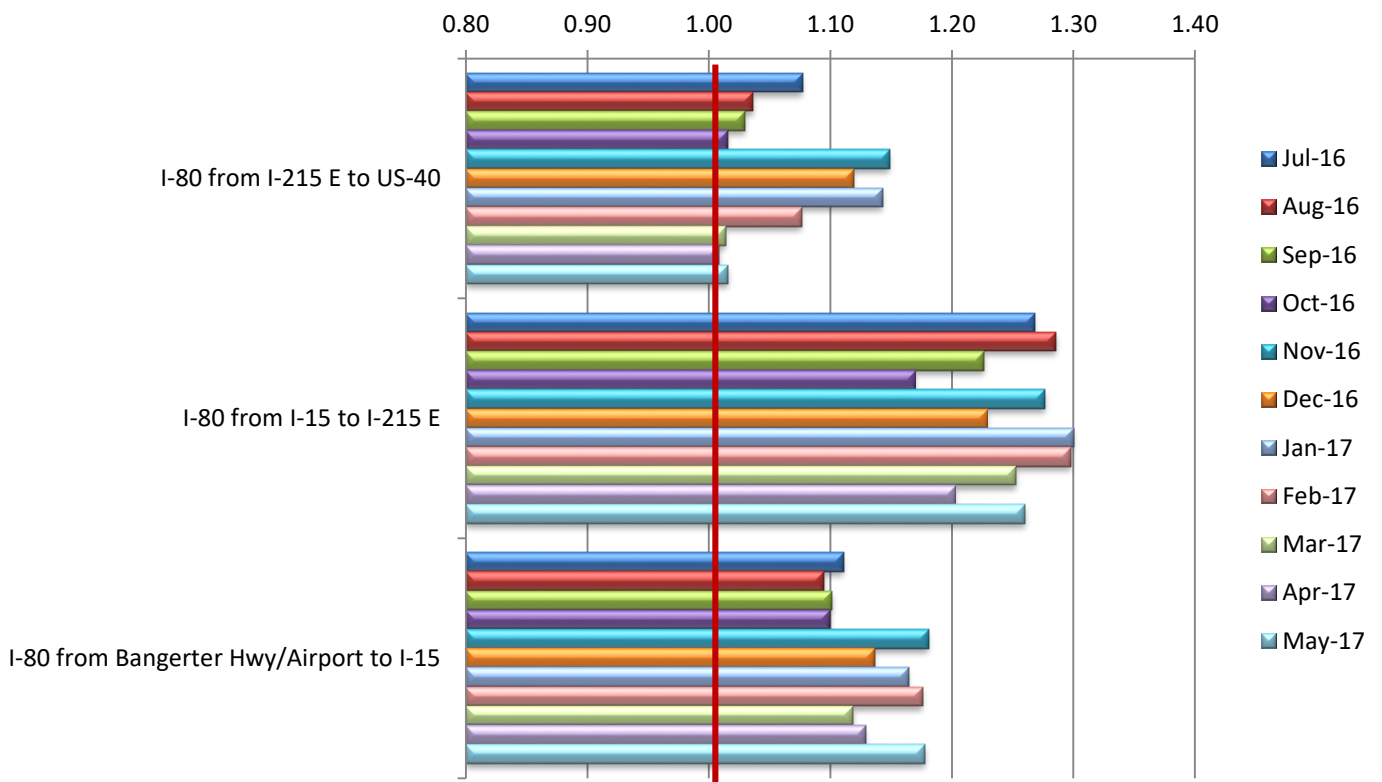
PM Peak Travel Time Index for I-15 FY 17



AM Peak Travel Time Index for I-80 FY 17

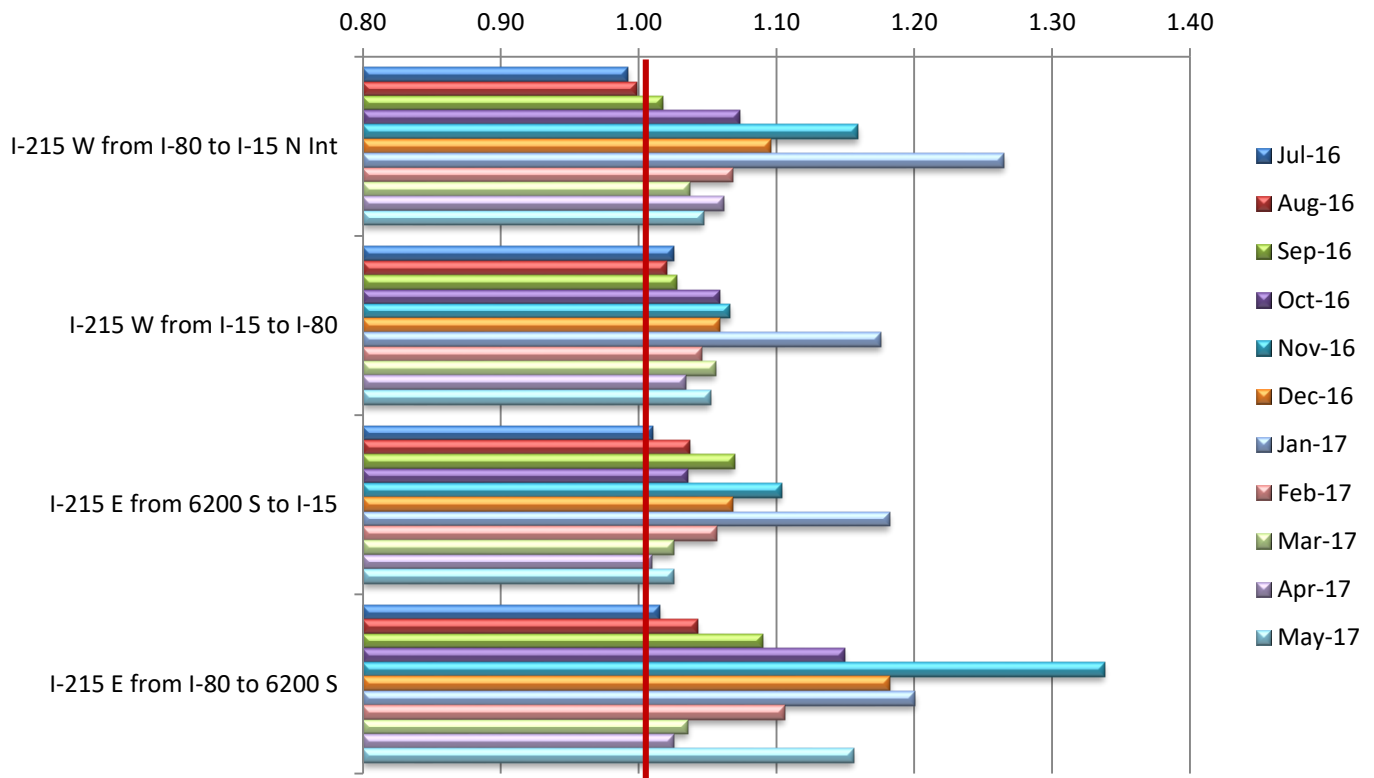


PM Peak Travel Time Index for I-80 FY 17

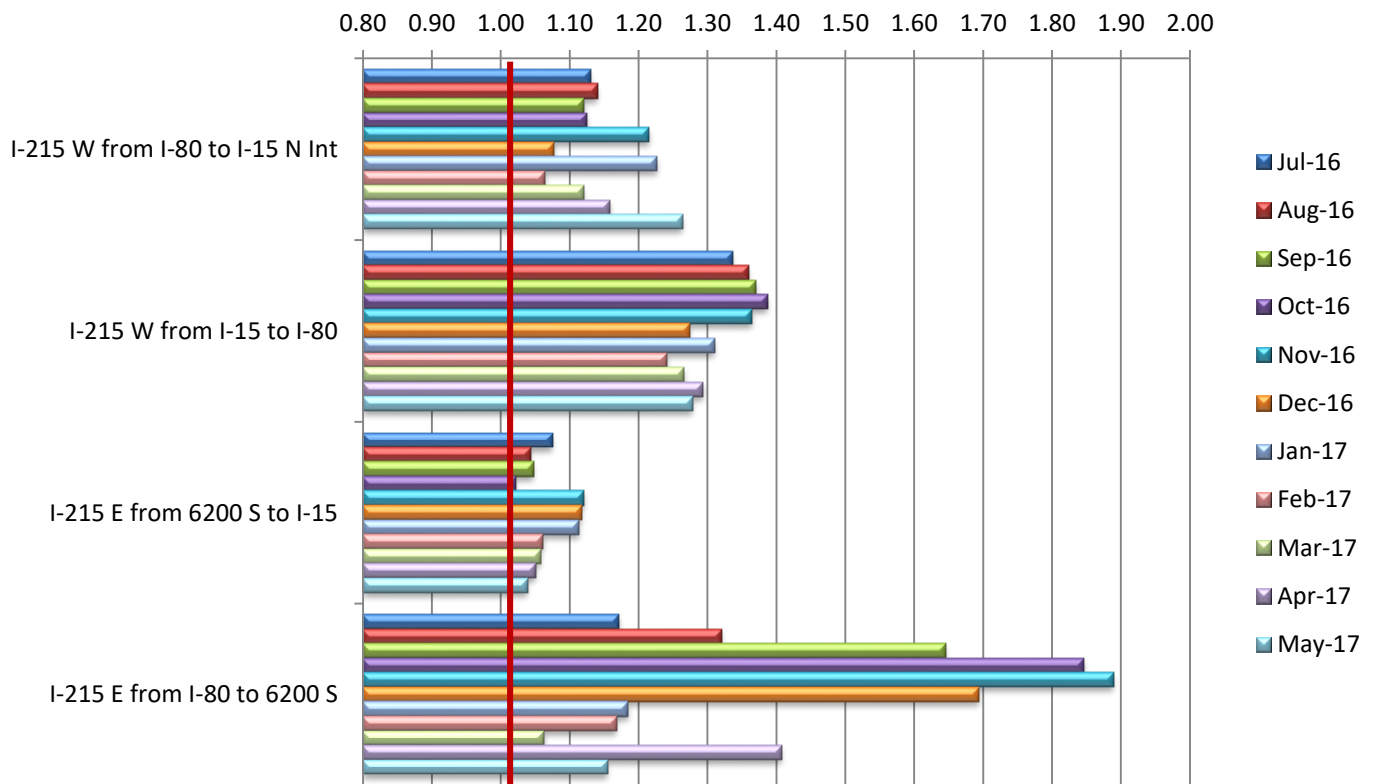


Freeway Traffic Level of Service

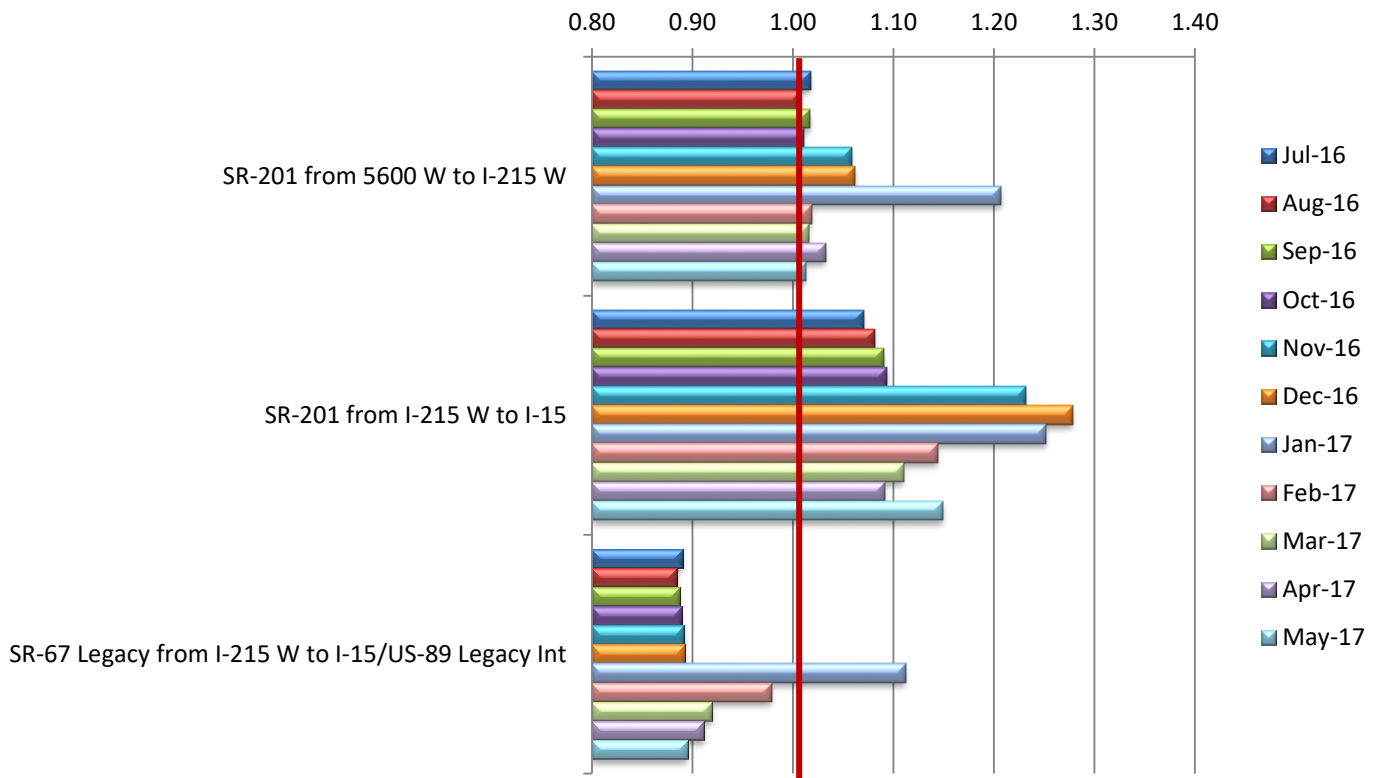
AM Peak Travel Time Index for I-215 FY 17



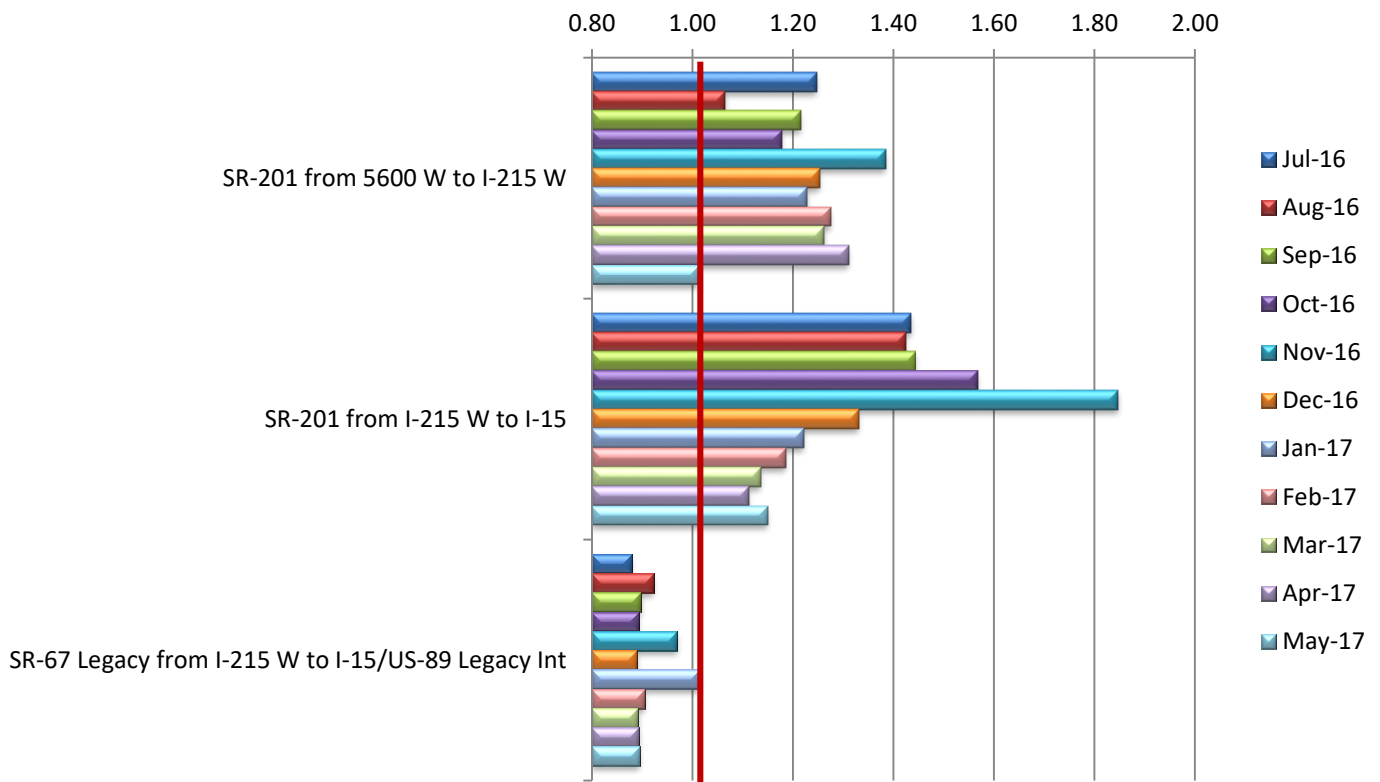
PM Peak Travel Time Index for I-215 FY 17



AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 17

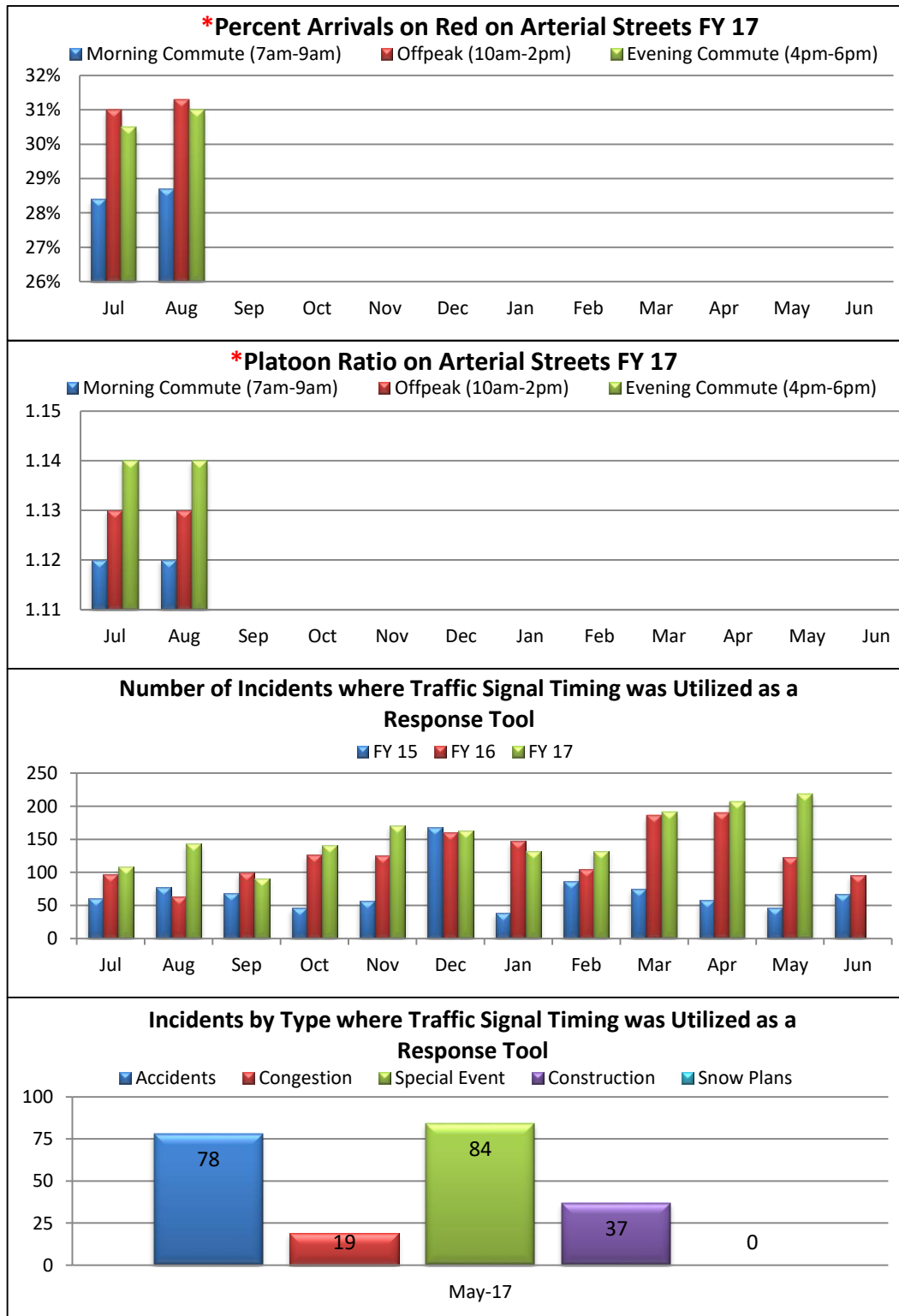


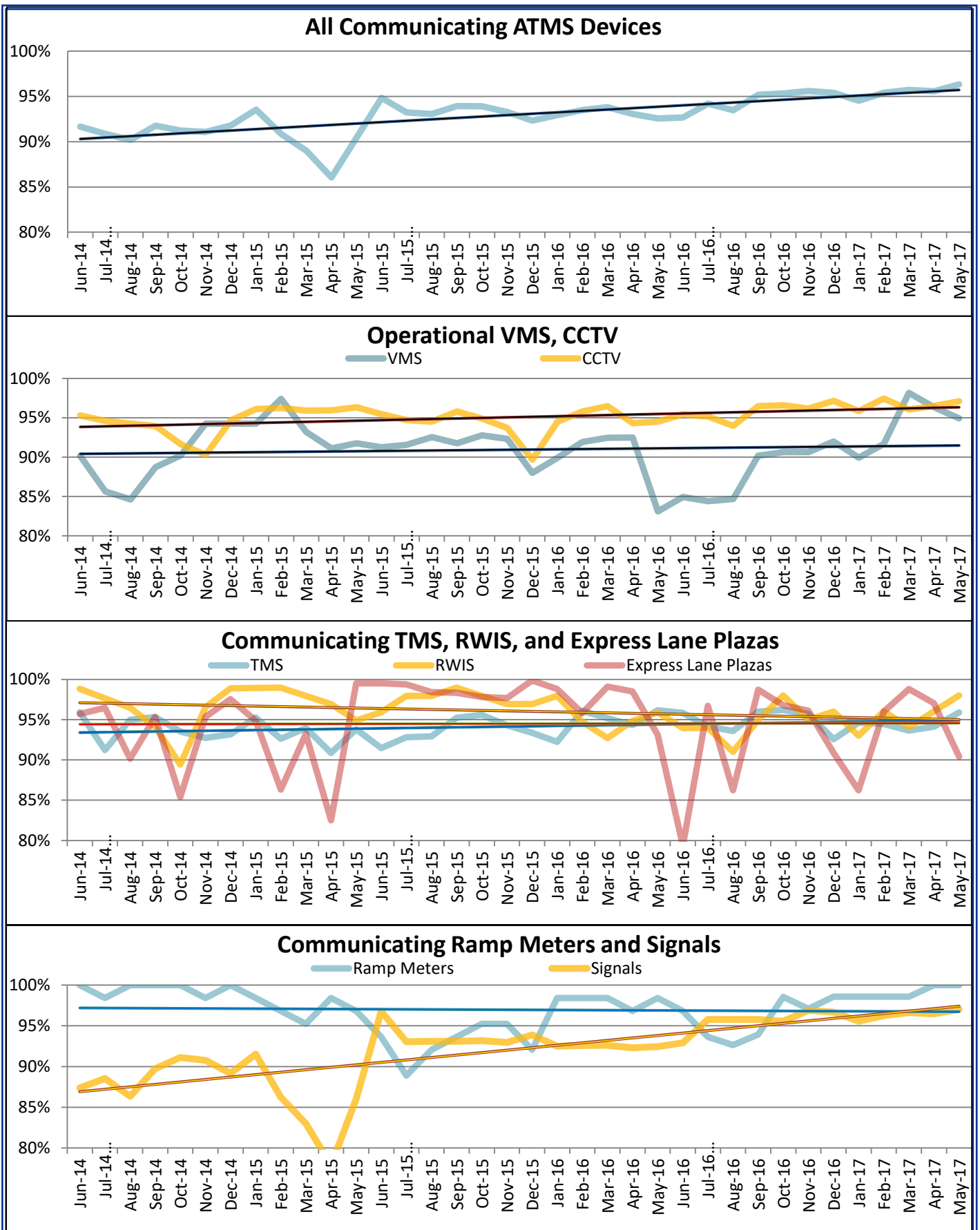
PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 17

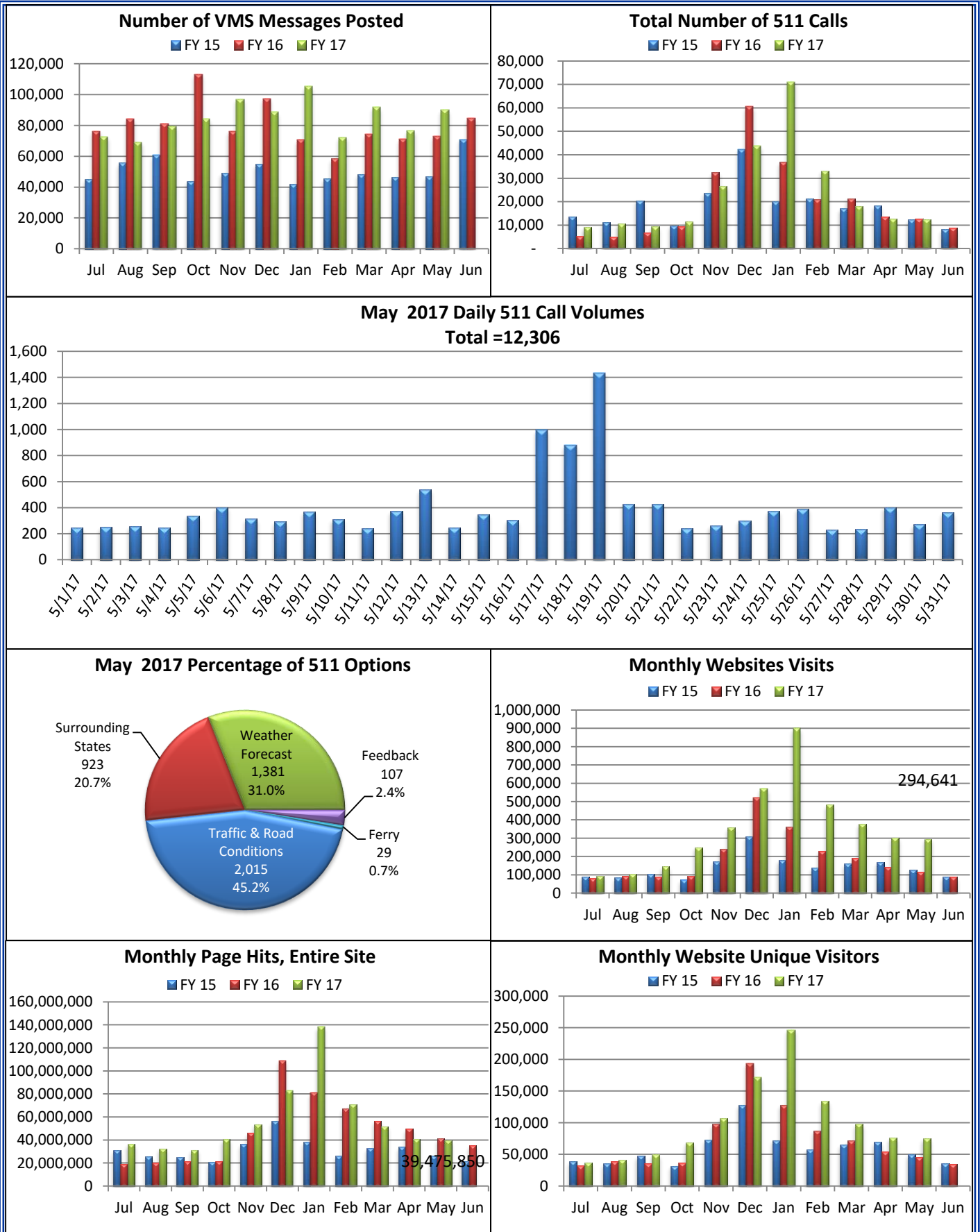


Arterial Traffic Level of Service * No data available since Aug 2016

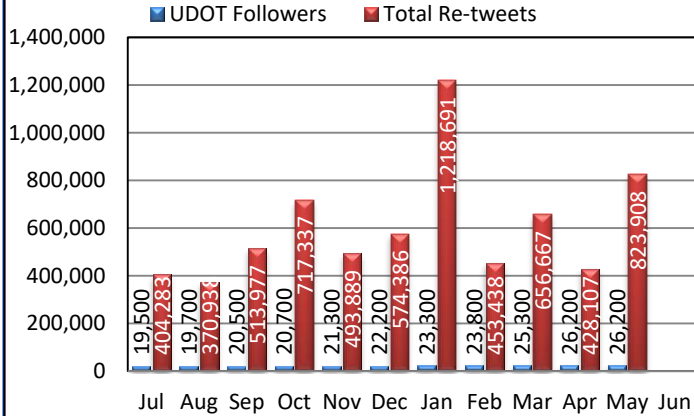
The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.



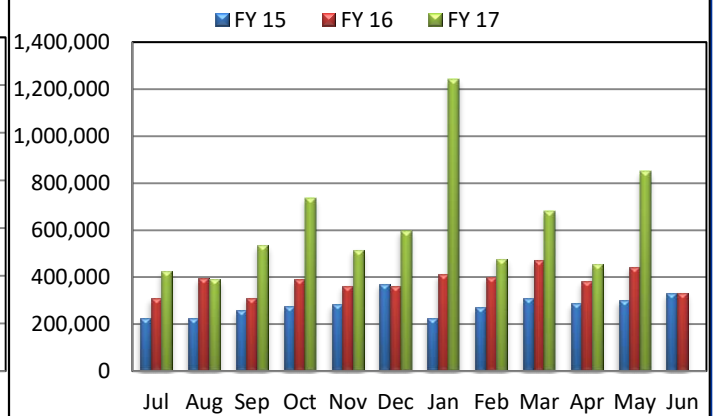




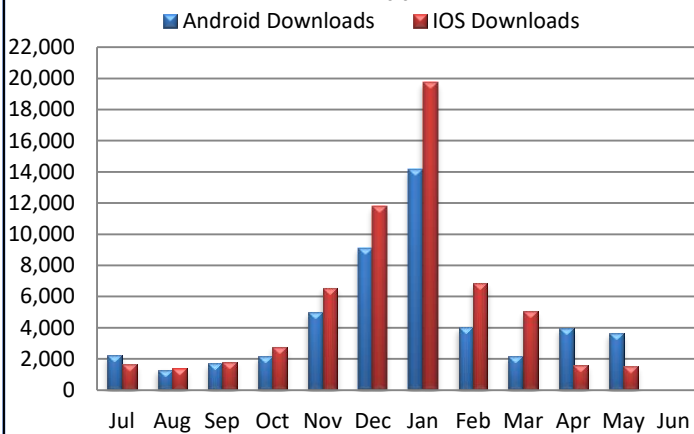
UDOT Traffic Twitter Activity - FY 17



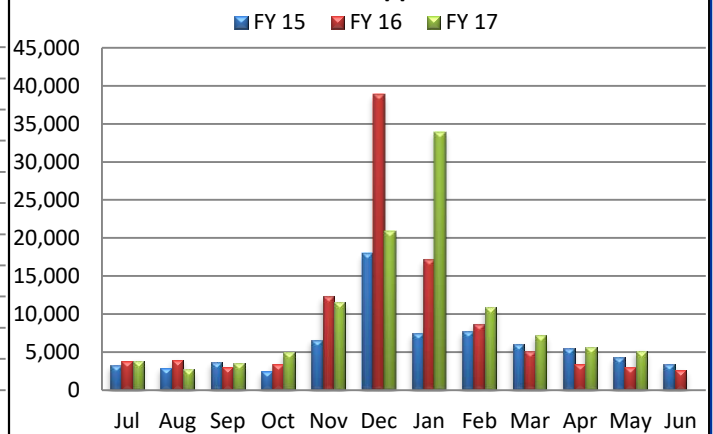
UDOT Traffic Followers and Re-tweets



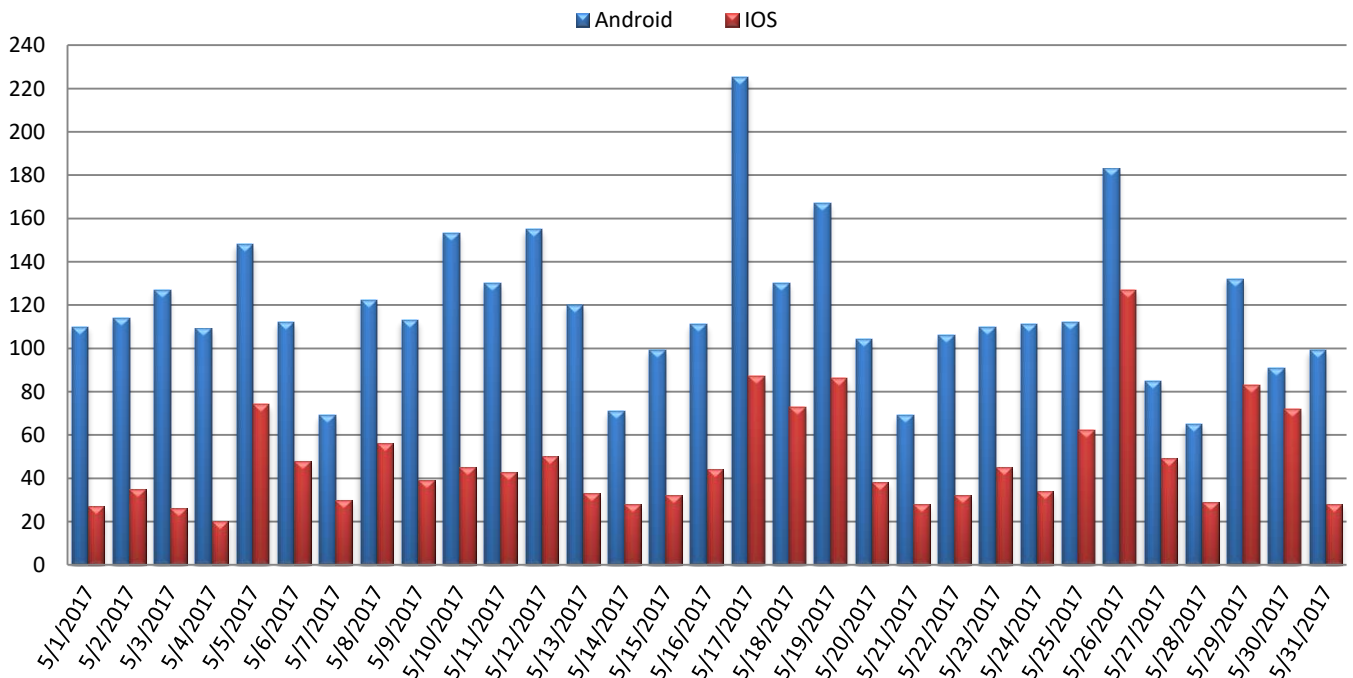
UDOT Traffic App - FY 17



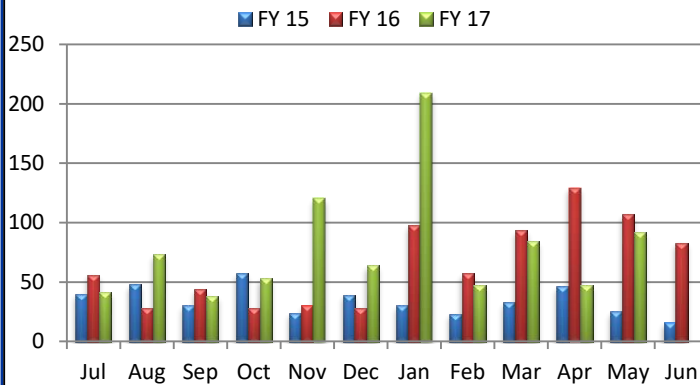
UDOT Traffic App Downloads



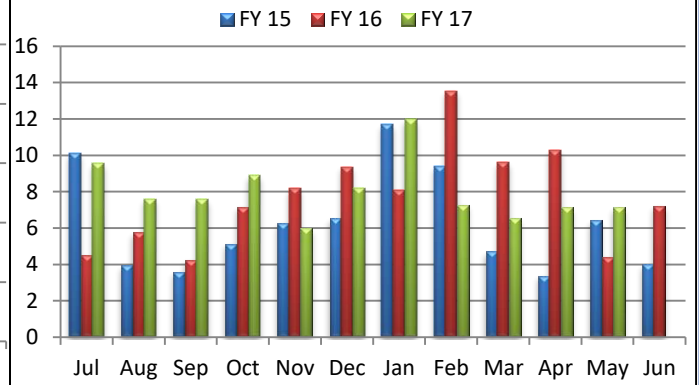
UDOT Traffic App Downloads - May 2017



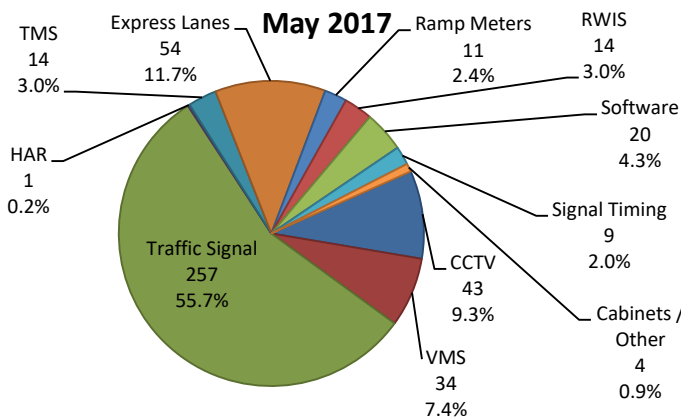
Number of "Ask UDOT Traffic" Questions



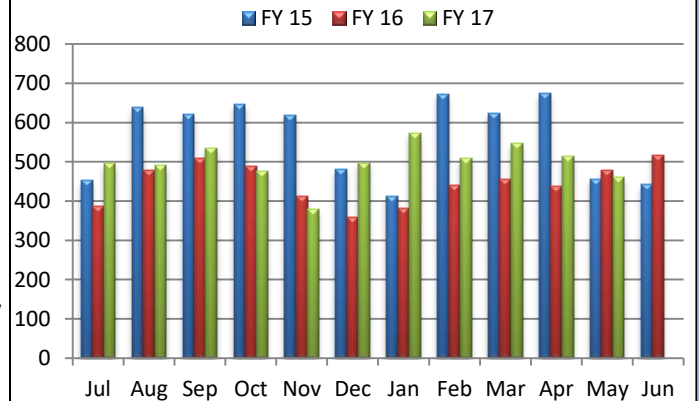
Overall Average Work Order Turnaround Days



New Work Orders by Device Type

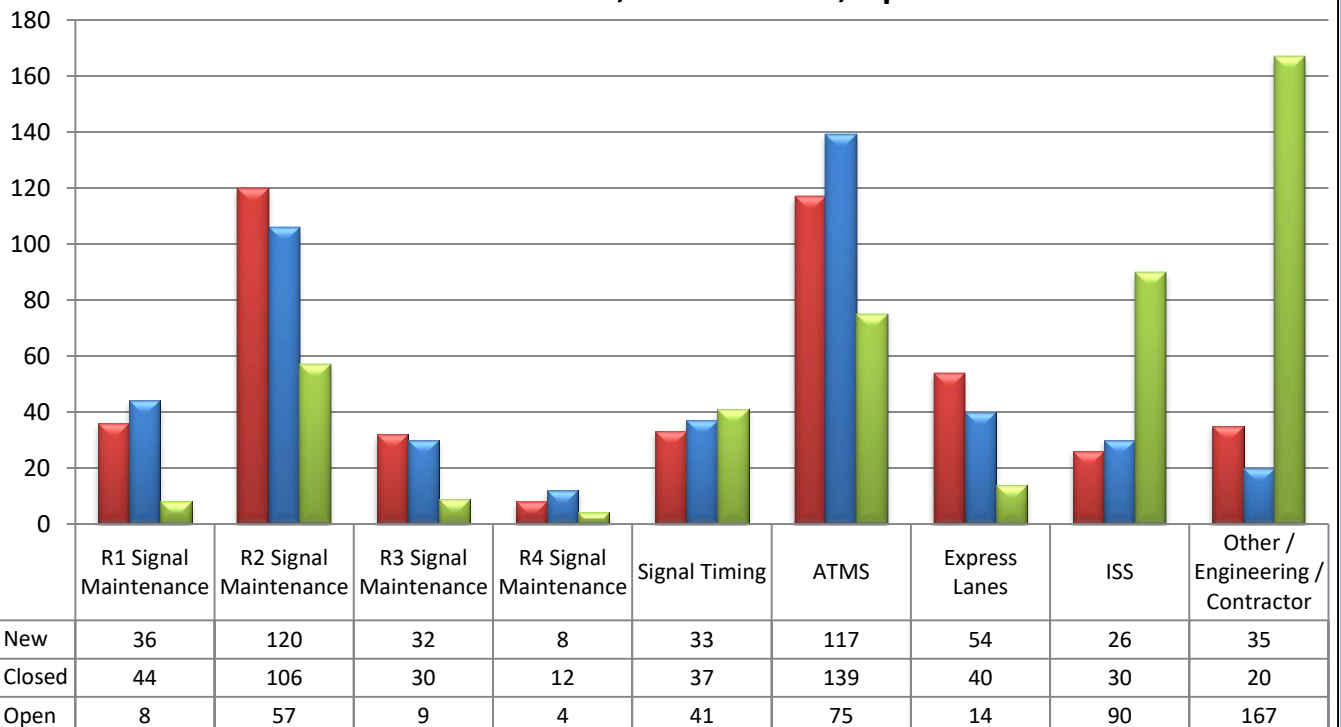


Number of New Work Orders



Work Order Statistics by Group - May 2017

Total New = 461 , Closed = 458 , Open = 465





CONTROL ROOM

Dallas Harlan was hired in May to fill an empty seat on Shift III in the control room. His experience will be a welcome addition for the team.

There were three TOCL incidents in May managed by the control room. This includes high winds in Tooele County requiring restriction of I-80, US-191 was fully closed due to road damage, and a river rescue in Provo Canyon (US-189) when first responders shut down WB lanes for a period of time causing significant delays while they searched for missing people who had fallen into the Provo River.

The control room supported all major road work projects with two in particular of note. The NB I-215 W lane split implementation and the EB/WB I-80 and Foothill ramp work.

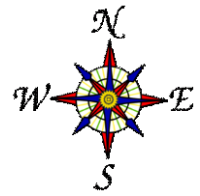
Special events supported by the control room in May included the St George Iron Man, US Men's Soccer Friendly at Rio Tinto Stadium, Vigor Race BCC 2017, Provo City Half Marathon, and the Ogden Marathon.

The Control Room managed 1,578 separate incidents and sent 359 j-page notifications.

TRAVELER INFORMATION



- Represented UDOT at The National Traffic Management Center Pooled Fund study meeting.
- Participated in a South Dakota DOT information exchange.
- Supported sold out special events at the Maverick Center through traveler information.
- Acted as project adviser for the Region 2 Ramp Meter You-Tube video, which included script editing and voiceover work.
- Represented UDOT by presenting at a PIO association officer funeral after action meeting.
- Presented to the northern Utah State Parks administration group regarding UDOT Traffic resources.



UDOT WEATHER GROUP

The Weather Group had 186 overall UDOT Weather interactions, 68 outgoing weather alerts, three NWS collaborations, and three road weather alerts.



Climatology

Temperatures across the state were largely about normal for the month. Salt Lake City was anomalously warm however with the monthly average temperature being 2.7 °F above normal. Precipitation was below normal statewide, with the exception of far southern Utah.

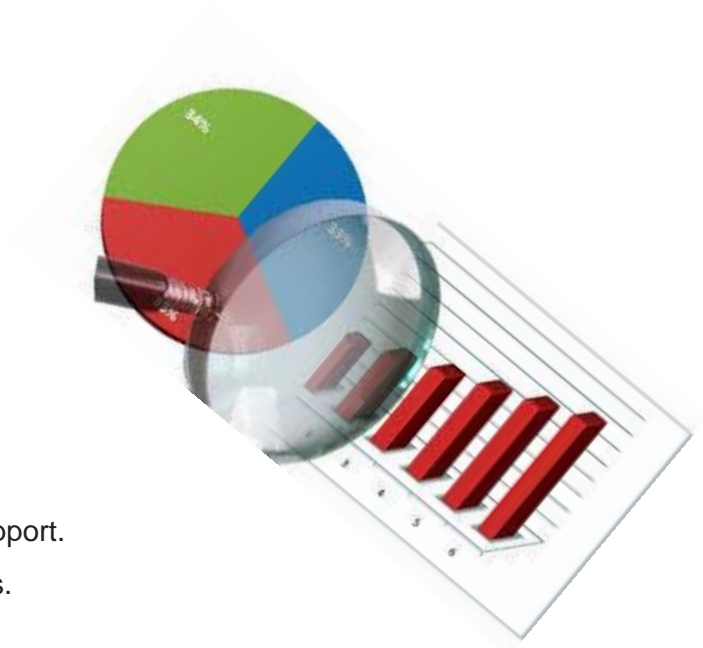
Weather Operations

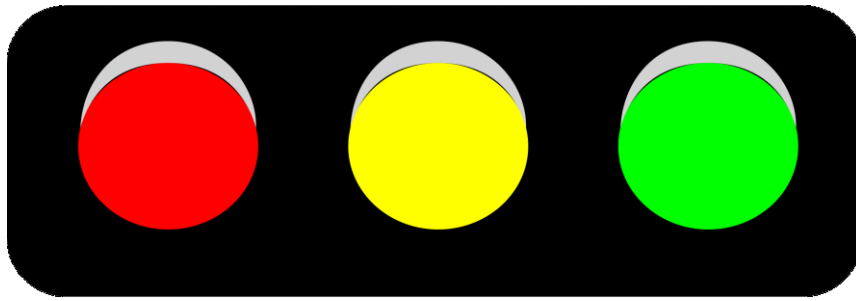
The team completed inspections of the RWIS sites involved in the FY17 RWIS upgrade and installation project. The team also had a meeting with the leaders of Region Four to discuss the Snow and Ice Performance Measure for last winter and what RWIS development will occur in the future. Weather operations additionally presented info on the Performance Measure at the ITS Coordination Meeting for Region 2, attended the National Weather Service's Spring Seminar where new meteorological developments and collaboration were discussed, and presented to the Ohio and Michigan Departments of Transportation information on the Pathfinder project as part of the FHWA's Every Day Counts (EDC-4) Weather Savvy Roads initiative.

There were four tours of TOC Weather Operations room involving employees of the South Dakota Department of Transportation, Colorado Department of Transportation, Salt Lake Chamber of Commerce, and a local troop of Boy Scouts.

TRAFFIC OPERATIONS AND REPORTING

- Worked on congestion reporting.
- TSM&O project development
- I-215 Redwood Rd ramp metering.
- South Dakota DOT visit.
- University Parkway analysis.
- I-15, 600 N to Beck St analysis.
- Life on State.
- Region 2 TIS support.
- Governor's performance metric.
- 3rd party data analytics procurement.
- Lehi Technology Corridor.
- I-15 SB add lane.
- Taylorsville I-215 frontage road analysis.
- Bangerter Highway ramp meter turn-on support.
- I-15, 9000 S to I-215 braided ramp analysis.
- Performance reviews.
- SR-10 MOT analysis.
- Redwood Rd / Bangerter Highway.
- University Parkway/State St.
- IACR approval process.
- 9000 S, State to 700 E.
- I-15, MP 11 / 12 EA.





TRAFFIC SIGNAL OPERATIONS

Region 1

Installation of generator plugs and transfer switches on all signal cabinets were completed in the region. In addition, region 1 has deployed generators to the maintenance sheds so they can assist when the power is out.

Region 2

The new Flashing Yellow Arrow (FYA) control that omits the FYA was implemented, making the left turn protected only, based on a combination of Time-of-Day and opposing through traffic. This timing program has been installed on 3300 S at 1200 West to test operations before being installed at other locations throughout the state. The team also configured three new signals around the Salt Lake Valley.

Region 3

All signal heads, signs, and junction boxes at Center St. & State St. in Orem were replaced. Seven new cabinets were installed along the BRT route in Provo and a new region 3 signal technician was hired.

Region 4

A new pedestrian signal at 200 S & 550 W in Cedar City was turned on. A new signal cabinet was installed to replace UDOT's last TS1 cabinet at Center St & 500 W in Cedar City. Signal timing and detection was modified at St. George Blvd & 1000 East to support the upcoming roadway widening project.

ITS Standards and Specifications

- The first draft of the ATMS Design Manual of Instruction was presented to the TOC staff and a meeting was held to gather and discuss comments on the project.
- As part of the changes brought about by the 2017 Ed. Standards, an ATMS Inspection Manual will be developed to instruct contracted engineering firms on what the TOC needs to be inspected. The first meeting was held to develop the concept and contents of the manual.
- A meeting was held to meet and introduce a WCEC engineer to upcoming needs for ATMS Inspection.

Procurement

- The ATMS Cable bid package was advertised.
- The Betz Transformer was advertised.
- The TOC determined it won't participate in a new contract to supply 5'x8' trailers for portable ATMS/RWIS stations. The Programming and Planning Unit intends to pursue the contract from this time forward.
- The Fuse and Fuse Holder contract for Highway Lighting and ATMS maintenance and operations was advertised.
- Daktronics sales representatives stopped by the TOC to meet with our staff. Cantilever and full span mounting details were discussed and the TOC requested that contractor check their engineering and verify that the current contracted version mounts to both structures. A new catalog was handed out and new products were discussed.

Projects

- Work progressed on the Metro Area New VMS Project to get it ready for advertisement in June. PIN 12640.
- Work continued on the ITS Concept Report for five VMS within Region 1. VMS sites were selected and the report was completed. Tyler Laing and Region 1 met to discuss the findings and recommendations for these VMS. All recommended VMS sites were accepted and it was determined that another VMS could be added to the I-15 SB corridor around Clearfield. Mike will examine the area and write the concept report for this new VMS.
- Three small sized VMS in Park City were given their Local Field Operations Test (LFOT). Narwhal Group, Park City Traffic IT Dept. representatives and UDOT crews were present to complete the testing.

Region 1

- **Statewide Signal Interconnect:** Has been advertised.
- **US-60 and 2700E:** Integration. 30 day burn in.
- **30th Street and Harrison:** Integration. 30 day burn in.
- **650 N. I-15 Clearfield:** Undergoing 30 day test.
- **Sardine Canyon US-89 from Brigham to Wellsville:** Has been advertised.
- **I-15, Farr West to Brigham:** Traffic Monitoring Station (TMS) improvements and VMS installation. Under construction. VMS being designed. Final plans have been completed and approved.
- **I-15 and Pioneer Ramp (13216) Narwhal:** Integration. 30 day burn in.
- **SR-193 1550 West (13949)** Under construction.
- **Clearfield 650 N. I-15 (11092):** Integration. 30 day burn in.



Region Two

- **I-15 SB Lane Gain:** The first stage of the RFP development is underway with the team planning their needed details for the project. The RFP is scheduled to be completed by the end of July.
- **I-80 Climbing Lane:** A new lane will be added to I-80 between Jeremy Ranch and Parley's Summit to allow for additional capacity for trucks to traverse the uphill grade. This project is being designed with a 3D virtual paperless method to allow for total review for conflicts in the field. This will have only minor impacts to the ATMS and will be replaced in kind.
- **Bangerter 4 Interchanges:** Construction is underway for the Bangerter Highway 4 Interchange project. The ATMS will include locations for future VMS at 7000 S, and Ramp Metering at all the on-ramps. The Ramp meter will not be operational initially, pending continued future projects, but the site will help with detection at the ramps for the TMS system.
- **I-15 10600 South By-pass lane to Monroe St.:** This will be a special ramp underpass from I-15 Northbound at 10600 South and will pass under 10600 South to connect to the Monroe Street being extended past the mall. This will relocate fiber and bring a CCTV into the area. It will have a lower CCTV to see in the by-pass underpass, and a higher CCTV on the same pole to see the ramp and mainline area.

Region 3

- **PIN 12805 - US-40 CCTV/Signal connections:** **NO CHANGES** - Waiting on STRATA to acquire electronics for phase II connections. (i.e., six each Roosevelt signals, one each Vernal Signal, and one each Duchesne signal).
- **PIN 11415 - US-189; State Park to Rock Cut passing Lanes:** Roadway construction complete. The power at Main Canyon Road was turned on in April. At Rainbow Bay, Rocky Mountain Power has attempted multiple times to finish the hook up. They are working with B Jackson to get the work completed. ATMS inspection will follow.
- **PIN 10266 - Provo; SR-256; 800 East to Univ Ave BRT:** ATMS design/installation of micro fiber ongoing. Installation of two CCTV lowering poles complete. Construction ongoing.
- **PIN 10137 - Provo; US-89 (300 S); 100 East to 700 East:** Additional micro duct and fiber installation to be done on a separate procurement contract planned for June.
- **PIN 13244 - Ut. Co. Signal Interconnect:** Project under construction. Fiber installation on US-89 between Springville and Provo; redundant path into Provo City Public Works ongoing.
- **PIN 14149 - I-15 Fiber; Payson to Santaquin:** Project awarded. Pre-construction meeting scheduled in June.
- **PIN 13061 - American Fork; US-89 @ Main St./200 East:** Project awarded. Pre-construction meeting held.
- **PIN 14573 - Payson; 1400 South State St (SR-198) Signal/CCTV:** **NO CHANGES**: Installation complete. Waiting for Utopia to splice fiber to signal cabinet so we can begin the burn-in.
- **PIN 10689 - Saratoga Springs; SR-68 Centennial Blvd to Pioneer Crossing:** Project in design.
- **PIN 14956 - Orem; SR-114 (Geneva) @ 800 South Signal/CCTV:** Project under construction. Completion anticipated in June.
- **PIN 13668 - Lehi; Main St @ US-89/State St Signal(s):** **NO CHANGES**: Project bid opening in June.
- **PIN 12158 - Lehi; I-15; Lehi Main St to SR-92:** Attended ATMS RFP evaluation meeting (Phase 3).
- **PIN 11982 - Saratoga Springs; SR-85 (MVC) SR-73 to 2100 North:** **NO CHANGES**: PS&E scheduled in June.
- **PIN 13421 - Springville; SR-77 (400 S); S.F. Main St. to I-15:** **NO CHANGES**: Project in advertisement.
- **PIN 9994 – US-89; 220 South P.G. to 500 East A.F. :** **NO CHANGES**: Project in design.
- **PIN 15275 – Saratoga Springs; SR-68 Village Pkwy to Grandview –** **NO CHANGES**: Project in design.

(cont'd on page 23)

(cont'd from page 22)

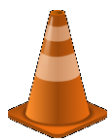
Region 3

- **PIN 15234 – Midway; SR-113 (Main St.) @ SR-222 (Center St.) Signal:** **NO CHANGES:** Project in design.
- **PIN 14983 – Continuous Count Stations (CCS) Interstate/Arterial:** **NO CHANGES:** Anticipated advertisement August 2017.
- **PIN 14909 – Fiber; Vernal to Manila (US-191/SR-44):** **NO CHANGES:** STRATA under contract with UEA to install conduit/fiber. UDOT in agreement to financially participate to install communication infrastructure to accommodate future device installation and fiber connection to Manila Maintenance Shed. Field visit scheduled in June.

Region 4

- **St. George:** After some city and UDOT fiber coordination, this project will be complete. Pinetop is in the process of integration. Complete. We will be processing another WTO under a new PIN for more connections.
- **SR-9 Hurricane Signal interconnect:** 30 day burn in. Integration.
- **Fiber upgrade for US-6, Helper and Price Signal Integration:** 30 day burn in. Integration.
- **I-70 in Richfield:** Project has been integrated and turned over to Brad Cameron.
- **Bryce Signal:** The contractor is looking into the splicing and construction details and coordinating with the telecom. Project has been turned over to Brad Cameron.





ITS MAINTANENCE



Field Team

The Field Team cross-trained Tyson Larson on CCTVs, VMS, RWIS and other ATMS devices. The team also helped restore communication in several locations in St. George. The VMS was retrofitted on I-215 at 1000 South, The Field team repaired conduit and wiring for two TMS, replaced a power pedestal at I-15 and 1300 South, and repaired CCTV conduit and cable at two locations.

Lab Team

The Lab Team tested and repaired 51 ATMS devices, worked on four signal cabinets, replaced a downed NID pole, and deployed four portable VMS to support the new ramp metering on Bangerter Highway. The team assisted with repairing four permanent traffic counting stations in St. George and Salt Lake.

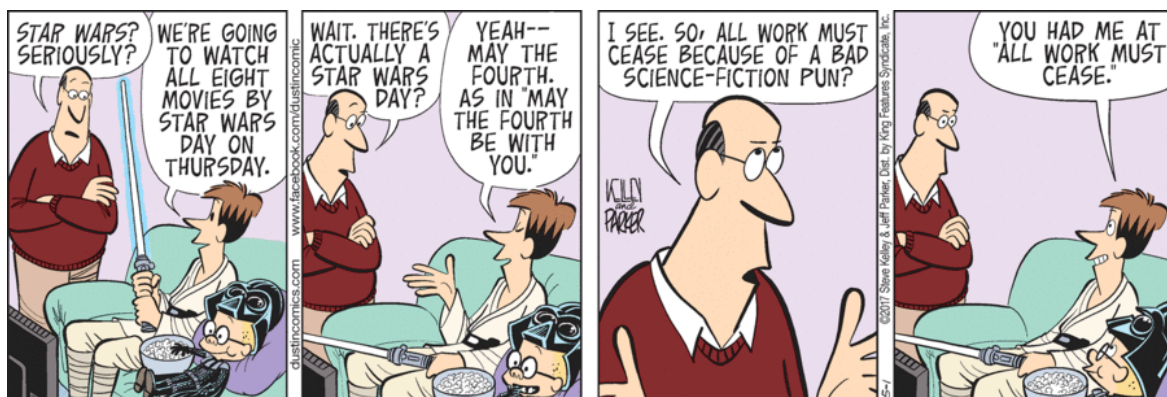
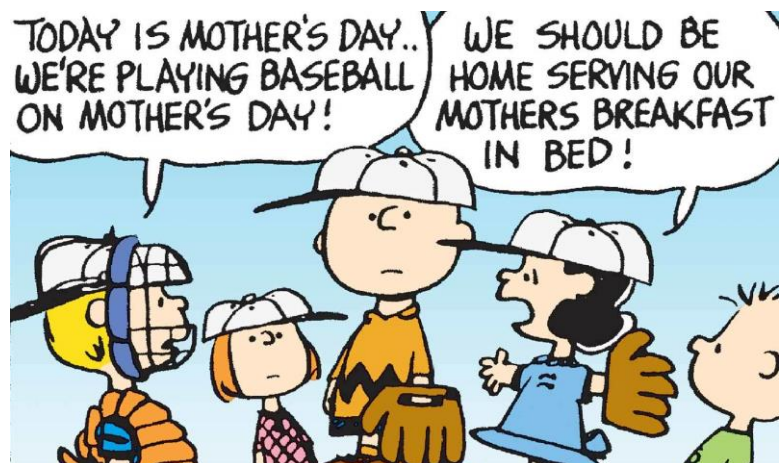
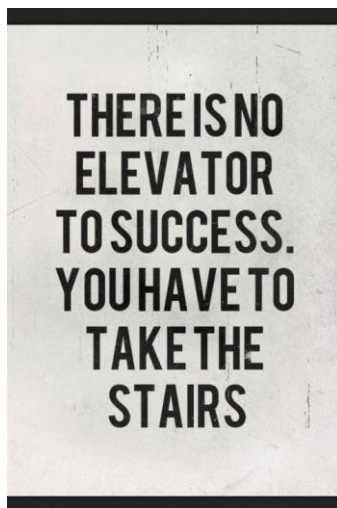
Express Lanes Team

The Express Lanes team repaired, programed, upgraded or rebooted 61 system devices, and performed Preventative Maintenance Inspections on 22 cabinets.

ITS Asset Management Team

The ITS Asset Management team integrated three new TMS, a new CCTV, and three new signals. The team also continued testing the AIMS inventory module, documenting several concerns. Work continued on inventorying the highway lighting system.





Acronyms

CCTV	Closed Circuit Television	DPS	Department of Public Safety
EIS	Emergency Information System	HAR	Highway Advisory Radio
I2TMS	Integrated Interagency Traffic Management System		
ITS	Intelligent Transportation System	LFOT	Local Field Operations Test
MIC	Manager in Charge	MOT	Maintenance of Traffic
RWIS	Road-Weather Information System	TAC	Technical Advisory Committee
TMD	Traffic Management Division	TMS	Traffic Monitoring Station
TOC	Traffic Operations Center	VMS	Variable Message Sign



**Happy
Memorial
Day**

